One-touch Espresso maker

HD5720/30

Service
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Philips Consumer Lifestyle

Service Manual

PRODUCT INFORMATION

- This product meets the requirements regarding interference suppression on radio and TV.
- After the product has been repaired, it should function properly and has to meet the safety requirements as officially laid down at this moment.

TECHNICAL INFORMATION

- Power rated	:	1350 W
- Standby power (switched off)	:	3 W
- Standby power (switched on)	:	80 W
- Voltage	:	220 - 240 V / 50 - 60 Hz
- Colour setting	:	Brushed stainless steel red
- SAP coding	:	HD5720/30

OPTIONAL (accessories)

- Hardness test strip	Service code	:	4222 459 45145
- Durgel bottle DE - GB	Service code	:	4222 459 45200
- Durgel bottle GB - NL	Service code	:	4222 459 45201

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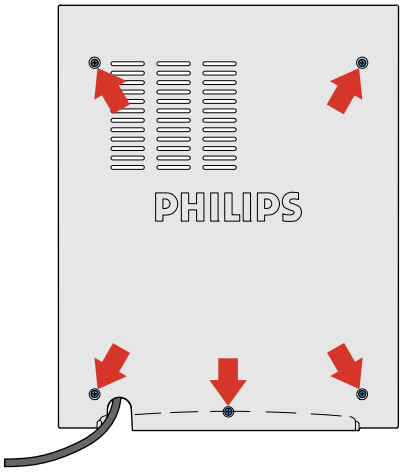
For your safety, be sure the plug is disconnected from the mains!

- In below steps the dismantling from the appliance has been written down in a certain sequence.
  Please follow the steps in this order.

Remove back panel:

- To remove the back panel, first remove the 5 screws, see picture for positions.



- Slightly lift the back panel upwards.
- The back panel becomes loose.

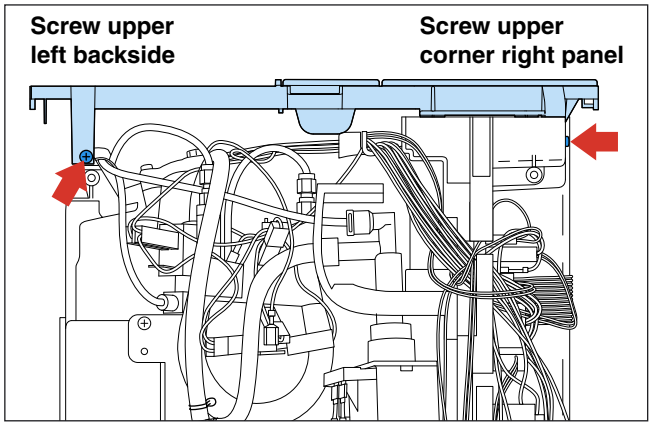
- After the back panel has been removed, the way is free to remove the other panels as well.

Remove left or right panel:

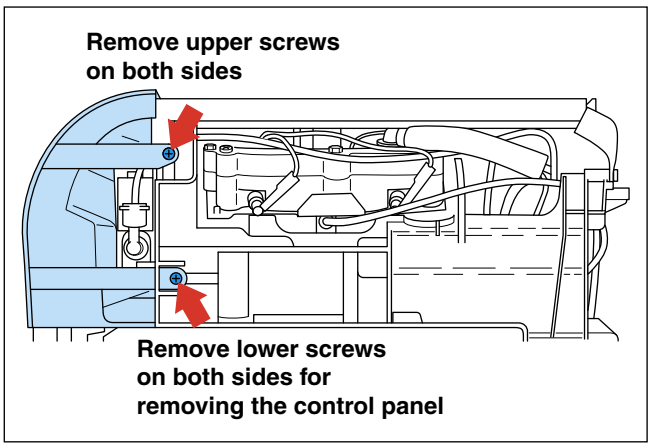
- To remove the left/right panel, slightly move the side panel ±1 cm backwards and then remove the panel sideward.

Remove topcover + Control panel:

- Open bean lid, remove cap from the grinder adjustment knob and remove the screw at the inside of the Grinder Coffee coarseness adjustment knob.
- Mark carefully the position of the knob, before removing it. (to ensure the right position when re-assembling)
- Remove the left upper screw seen from the back and remove the screw in the upper corner of the right side, see picture for the positions.



- Now remove on both sides the upper and lower screws where the control panel is fixed to the frame!
  See picture for positions.



- Remove the steam knob assy, by using a tool to gently push the steam knob assy from behind.
- Now you are able to remove the control panel.
- The control panel is electrical connected to the machine by the band cable connection.
- The topcover can be taken of.

Remove the service door:

- The service door can simply be removed by removing the steel wire located on the left side at the hinge.
- Pull the wire out the hinge and the service door can be taken away.

Remove bottom cover:

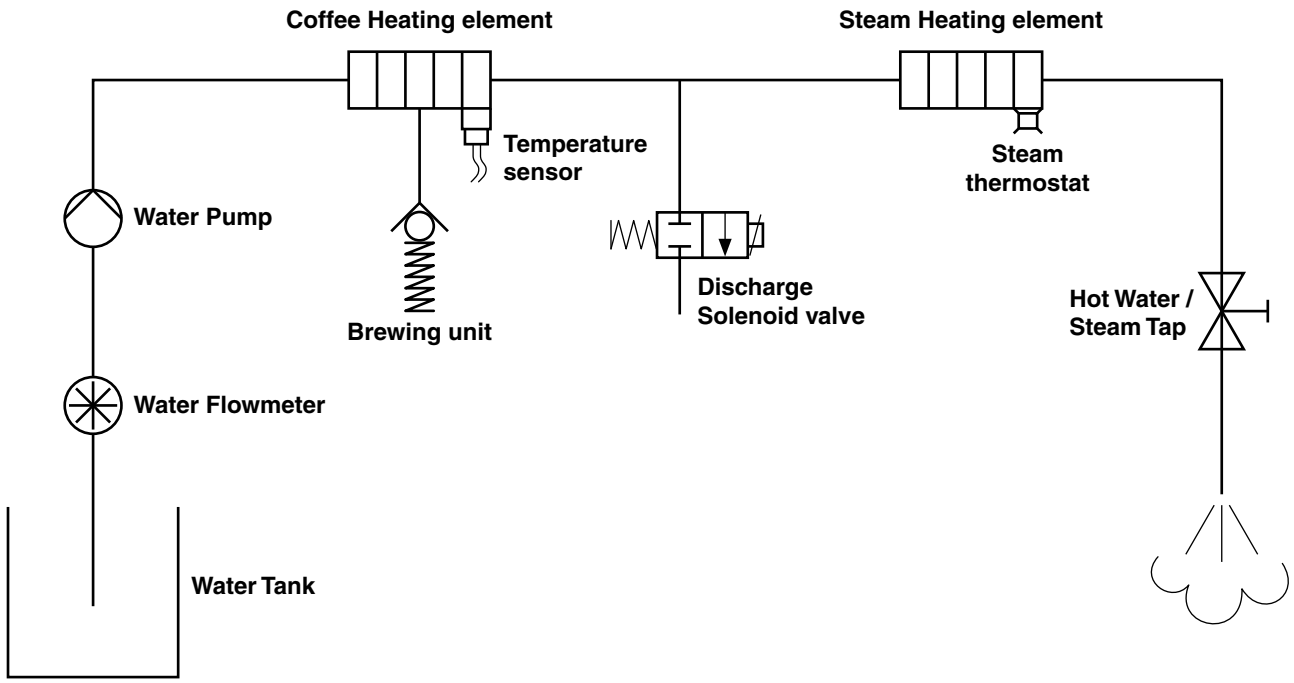
- To reach the micro switch that detects the presence of the Coffee ground container, the bottom cover has therefore to be removed.
- At the bottom of the appliance unscrew 7 Torx screws and remove the cover, micro switch and the lift drive belt can be reached easily.

- If the above steps are carried out all the parts can be reached and if needed dismantled/replaced.

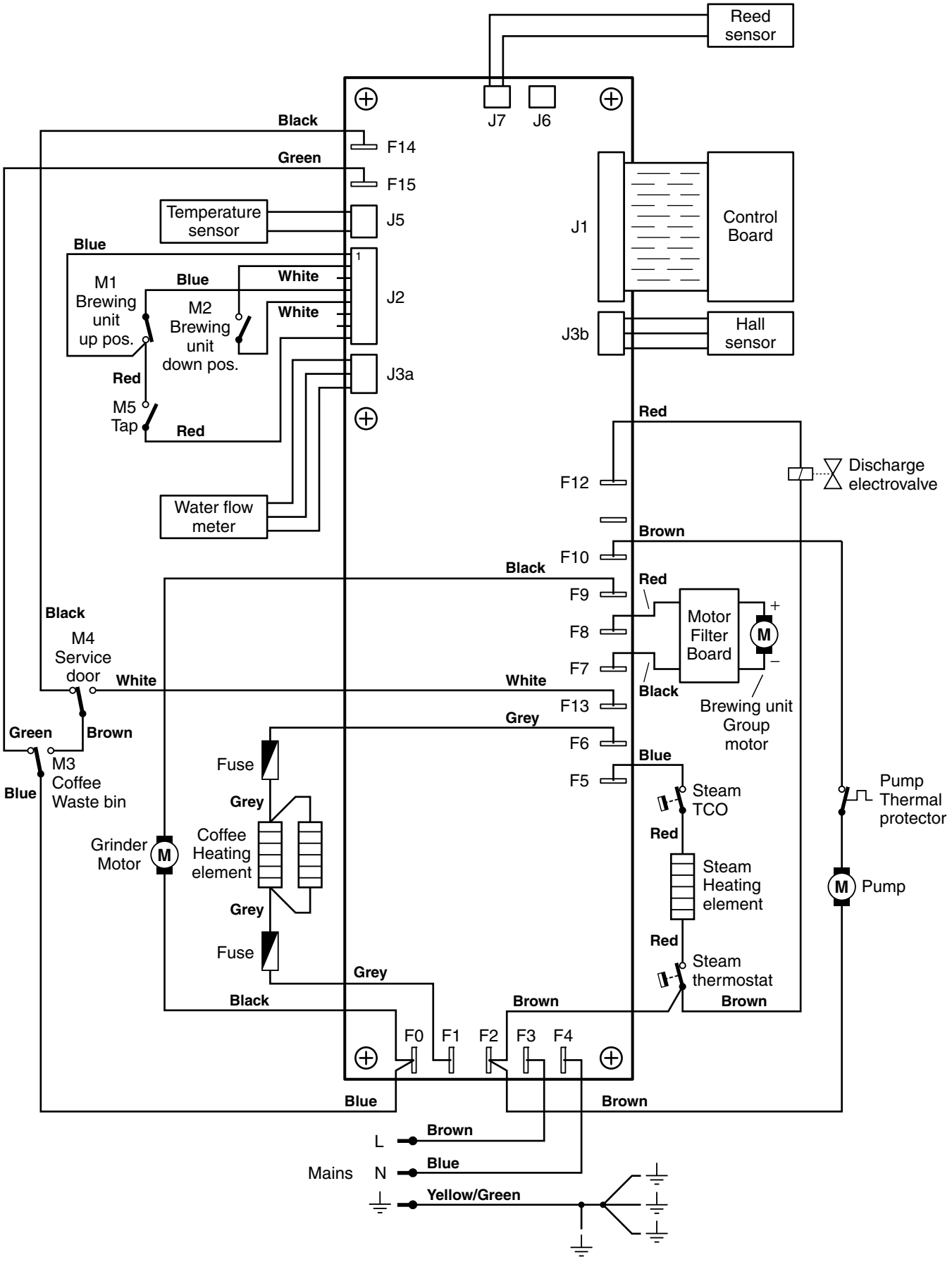
All the display messages that are described in this service manual are in English language. If you want to change the language to English, proceed as follows.

1. Switch appliance on.
2. Press the MENU button.
3. Navigate with the ▾ or ▴ until Display message SET LANGUAGE? appear.
4. Press the OK button to select this routine.
5. Navigate with the ▾ or ▴ Display message ENGLISH appears.
6. Press the OK button 3 seconds to finalize the selection.

- Water/mechanical circuit



- Electrical circuit



Working principle of the appliance

To understand the appliance better, hereby a short technical description of the working principle.

When the appliance has been plugged on the mains, the appliance starts with a self diagnose.

First items that will be checked are:

- Temperature sensor(s), state of micro switches.

Second:

- If no malfunction detected the Brewing unit will be moved downwards and after actuating the micro switch **brewing_unit_down_position M2**, the brewing unit will be brought to the mid position (in this position it is possible to remove the Brewing unit for cleaning purposes).
- During this movement the Hall sensor will count the needed cycles to go to the right position.
- After this has been accomplished the appliance will shut it selves off.

If there is a problem detected in above actions the Display will show a “GENERIC ALARM” message.

Note:
If the appliance is still in factory mode, the appliance will not shut it selves off.
First the available languages will be displayed and after the selection of the language the appliance starts the water fill routine.
Follow the steps indicated in the displayed after the process the appliance will shut it selves off.

Switching the appliance on:

When the appliance has been switched on the brewing unit will first be brought to the Coffee filling position.

Also the Coffee heater will be powered and heats up. (see also message in the display) (heating up….)

When the right temperature (measured by the NTC) has been reached, the Brewing unit will be brought to the brewing (top) position until the **brewing_unit_up_position M1** micro switch is activated.

Then water will be pumped through the brewing unit (see also message in the display) to clean the Coffee system (Brewing unit & brewing head).

After this routine the Brewing unit will be sent to the down position and by a mechanical mechanism the Coffee grounds will be wiped off.

The Brewing unit will be sent to the Coffee filling position again and the appliance will show a message on the display that the machine is READY to USE.

Brewing cycle Coffee:

When the user selects one of the Coffee buttons (small- , medium- or large cup of Coffee) depending on status of the appliance the Brewing unit will be sent downwards first and then go to the grinder fill position otherwise the first action will be that the beans will be grinded into Coffee powder. The Coffee powder falls in the Brewing unit.

When the grinder stops grinding, the Brewing unit will be moved up to the brewing position.

The pump starts to pump a small amount of water into the brewing unit (pre-brewing), the Coffee bed will slightly shrink and therefore the Brewing unit will be sent up to the brewing position again. (few millimetres)

After 1 – 2 seconds the pump continues to pump the water through the brewing unit and Coffee will leave the Brewing unit via the Coffee spout into the cup.

When the right quantity of water has been reached (measured by the flow counter), the pump stops.

The Brewing unit will be sent to the down position.

In the down position the Coffee residue will be wiped off. The coffee will fall in the removable waste bin container.

After this the Brewing unit will be sent to the Coffee fill position again.

The Coffee brewing cycle has been performed.

Service testroutines

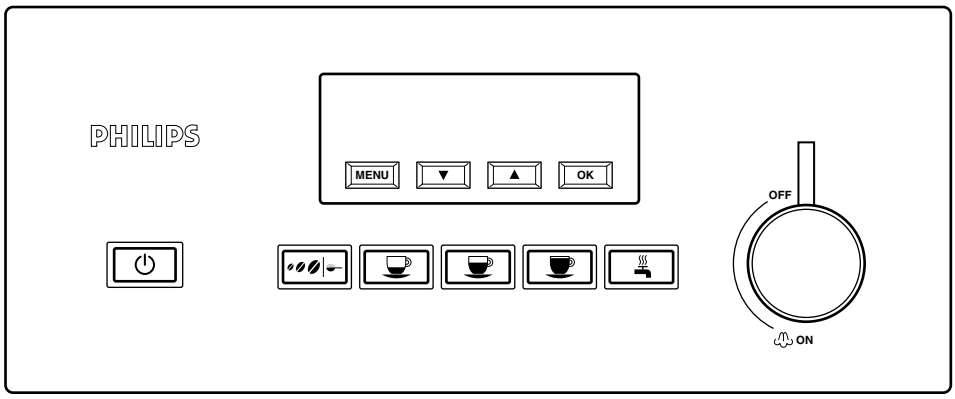
This appliance has been equipped with special “service” routines to be able to check several functions of the appliance.

COUNTING PROCEDURE

With the counting procedure can be checked how (intense) the machine has been used by the consumer.

Items that are monitored:

Number of Coffee made, liters of water used, number of descaling procedures performed, number of cleaning/washing cycles performed.



Entering the counting menu

1. Disconnect the appliance from mains.
2. Press simultaneously “MENU” and ▼ button.
3. Connect the appliance to mains.
4. If above steps succeeded the display will show the following message
   “TOT. COFFEE XXX”
   ”TOT. WATER XXX”
   *** where XXX is number of cups or Liters**
5. Press ▲ button to step to the next display message
   ”DESCALING XXX”
   ”WASHING XXX”
   *** where XXX is number of cycles performed**
6. Press ▲ button to step to the next display message
   ”SW RELEASE POW 15”
   ”SW RELEASE DIS 15”
   *** where POW 15 stands for power PCB software version release 1.5**
   *** where DIS 15 stands for display PCB software version release 1.5**
7. Press ▲ button, step 4 will be repeated.

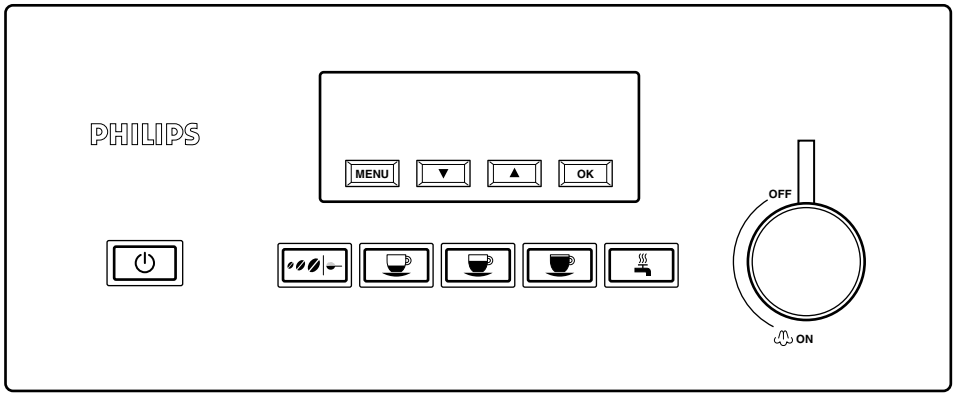
To leave the service/test mode unplug the appliance from the mains.

For repair solutions it is good to know if the descale procedures are performed in line with the coffee/cappuccinos brewed.

In below table you can find the values depending on the water hardness setting when the appliance will inform the consumer that the appliance has to be descaled!

Water hardness setting	Litres water after which the decalcifying routine must be performed (L)
1	250
2	150
3	80
4	45

Check the installed Water hardness setting.



Press the “MENU” button and walk through the menu items by means of the ▼ or ▲ buttons until **WATERHARDNESS X** is displayed.

The number X represents the Water hardness setting.

Calculate the number of liters displayed in combination with the installed hardness setting in the table.

Example 1:

- Display shows 120
- Hardness setting 4
- Performed cycles decalcifying 3.

Calculation:

120/45 = 2.66 round down to => 2.

2 – 3 = -1 < 3

Descaled routines performed ok!

Example 2:

- Display shows 700 L
- Hardness setting 3
- Performed cycles decalcifying 3.

Calculation:

700/80 = 8.75 round down to => 8

8 – 3 = 5 > 3

Descaled routines performed Not OK!

Example 3:

- Display shows 1000 L
- Hardness setting 1
- Performed cycles decalcifying 3.

Calculation:

1000/250 = 4

4 – 3 = 1 < 3

Descaled routines performed ok!

If the number of decalcifying routines performed deviates more than 3 times of the formula outcome the machine has not been properly decalcified.

Conclusion:

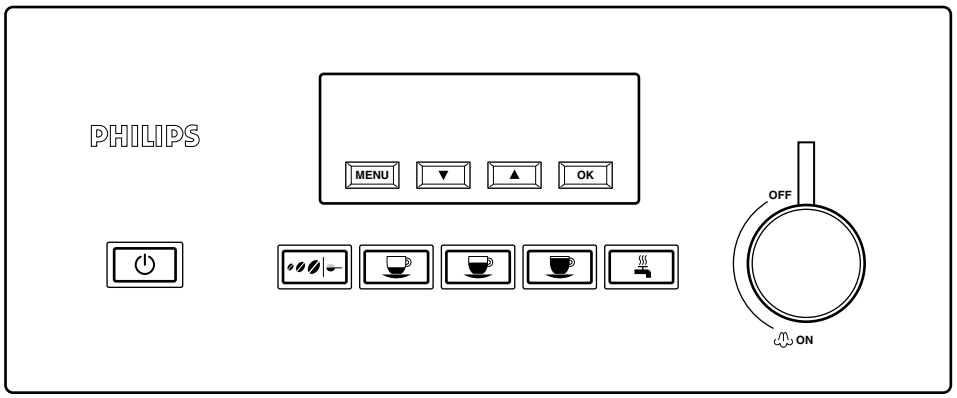
The outcome of the formulas must be more or less equal to the number of decalcifying routines carried out by the consumer.

Example1 and Example3 are in line with the recommanded number of descal routines performed as requested by the appliance.

Example2 there it is clear that the appliance has not been descaled according the instructions given by the appliance.

The outcome of the formula deviates more than 3 times of the requested number of descaling of the appliance.

PUTTING THE APPLIANCE INTO SERVICE/TEST MODE



1. Disconnect the appliance from mains.
2. Press simultaneously and Coffee buttons.
3. Connect the appliance to mains.
4. If above steps succeeded the display will show the following message "**LOAD TEST MODE**"

Using the functions in the Service/test mode.

When the Service/test mode is entered, the following functions can be carried out / checked.

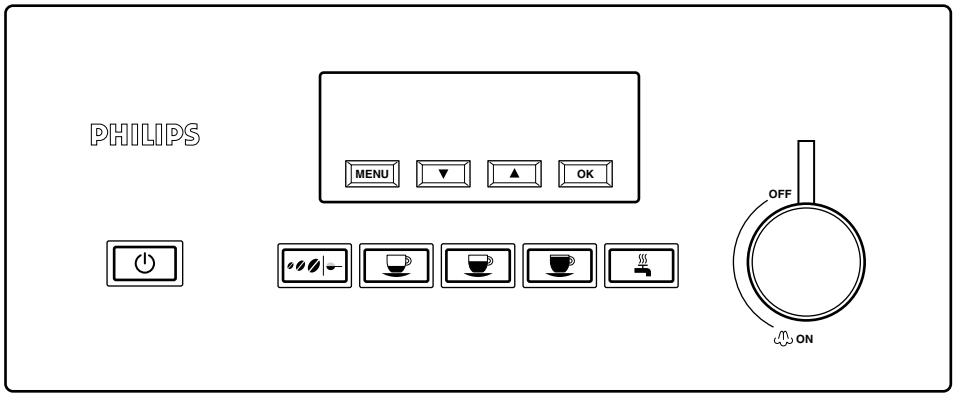
	Function selection	Action to perform	Display message	Result of the action
1.	Operate Brewing Heater	Push the MENU button	HEATER ON	**Close steam knob!!!** ** The Brewing heater will be powered, check power consumption (± 1240 W). *
2.	Operate Pump	Push the button	PUMP ON	If water container is filled, placed and **steam knob is closed** ** the pump will be powered (± 40 W).
3.	Operate the grinder	Push the OK button	GRINDER ON	**Close steam knob!!!** ** Grinder will grind "Beans".
4.	Operate Brewing unit upwards (motor lift)	Push the On/OFF button	MOTOR UP & LIMIT SWITCH UP	If this function will be performed always be sure the Brewing unit has been installed, service door is closed & Coffee ground container is in place. If the **brewing unit_up_position M1** has been activated by the Brewing unit the Display will show message LIMIT SWITCH UP.
5.	Operate Brewing unit down (motor lift)	Push the button	MOTOR DOWN & LIMIT SWITCH DOWN	If this function will be performed always be sure the Brewing unit has been installed, service door is closed & Coffee ground container is in place. If the **brewing unit_down_position M2** has been activated by the Brewing unit the Display will show message LIMIT SWITCH DOWN.
6.	Operate discharge valve (EV1)	Push the button	EV1 ON	**Close steam knob!!!** ** The 3way discharge valve will be powered.
7.	Operate steam Heater	Push the button	VAPORIZER ON	**You will have to turn the steam knob fully open, before the steam heater will be powered!** ("message open knob" appears) check power consumption (± 1 kW). *

* **When powering the Brewing heater in the system via the service test mode be warned that you not power the heater too long, the software is not protecting the heater in this state!!**

** **When the Steam knob is (fully) open the Brewing heater, Valve, Pump and Grinder will not operate, close in those steps the steam knob!!!**

To leave the service/test mode unplug the appliance from the mains.

PUTTING THE APPLIANCE INTO DISPLAY TEST MODE * (Factory Virgin mode)



1. Disconnect the appliance from mains.
2. Press simultaneously and Coffee buttons.
3. Connect the appliance to mains.
4. If above steps succeeded the display will show the following message "DISPLAY TEST MODE"

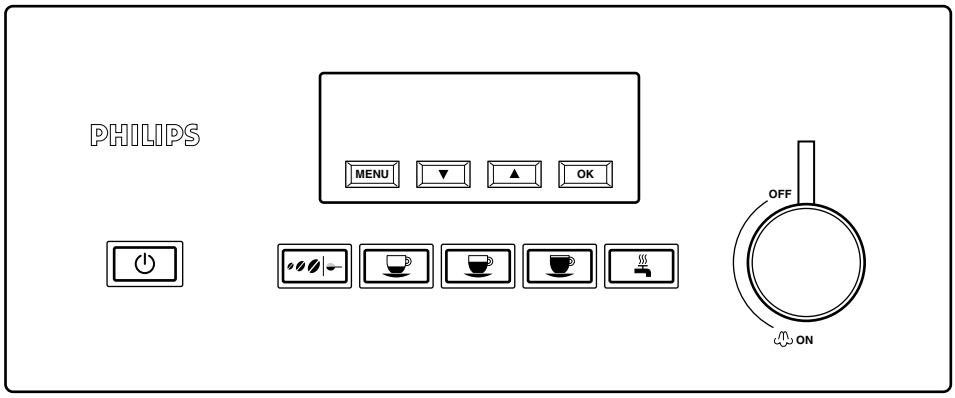
In the display test mode it is possible to check if the menu buttons are recognized by the software.
For instance pressing the **MENU** button the display will show Button 1, if you press the button, display will show Button 2 pressed etc.!
If you turn the steam knob fully open the message "**KNOB IS OPEN**" appears on the display.
In this manner it is possible to check if the buttons are recognized by the software.

To leave the service/test mode unplug the appliance from the mains or wait 45 seconds without pressing any button.

When powered again the appliance must be fully installed again!

Temperature measurement.

COFFEE TEMPERATURE MEASUREMENT PROCEDURE



1. Switch appliance on.
2. Make sure appliance factory default settings are stored.
3. Place a plastic cup under the coffee spout.
4. Set grinder setting on position 7.
5. Fill water tank and bean compartment.
6. Press the button.
7. During the cup is filled with Coffee measure the temperature.
8. Repeat step 6 – 7 once and note the highest measured temperature.
9. For validation see table below.

WATER TEMPERATURE MEASUREMENT PROCEDURE

1. Switch appliance on.
2. Make sure appliance factory default settings are stored.
3. Place a plastic cup under the steam nozzle.
4. Fill the water tank with water.
5. Press the button and turn the steam knob open.
6. During the cup is filled with water measure the temperature.
7. Repeat step 5 – 6 once and note the highest measured temperature.
8. For validation see table below.

Beverage	Function	Temperature spec.
Coffee temperature (°C)	Long Coffee	≥ 75°C
Hot water	Water	≥ 70°C

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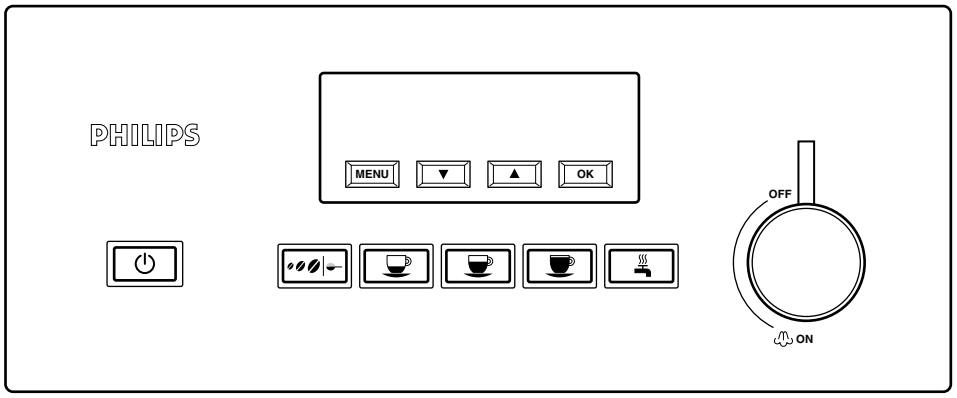
PROCEDURE TO EMPTY WATER SYSTEM

In the winter season it might be needed to empty the water system of the appliance in case it can be expected that the appliance will be stored/transported in the freeze cold for a longer time.

If the water system will not be emptied it is possible that the internal parts become damaged due to the fact that frozen water has expanded.

Note:
If the water circuit is emptied please put the appliance to the Factory Virgin mode by following the procedure "Putting appliance into Display test mode" see page 9 and inform the consumer that the machine has to be re-installed according the Directions for use.



Put the appliance into Service/test mode.

1. Disconnect the appliance from mains.
2. Press simultaneously and Coffee buttons.
3. Connect the appliance to mains.
4. If above steps succeeded the display will show the following message "LOAD TEST MODE"
5. Place a special empty prepared water tank with the Magnet glued in top position or use a magnet to mislead the appliance that there is normal water in the tank.
6. Open the steam knob for ± 75 %. (micro switch may not be actuated)
7. Push the button, pump starts pumping, keep the button pressed (> 30 seconds) until there comes no water out the steam pipe anymore.
8. Connect ± 4.5 Bar air pressure to the steam pipe.
9. Push the ON/OFF button until the display will indicate "LIMIT SWITCH UP"
10. Push the button so that "EV1 ON" is displayed. (check if you hear a loud click) (Tank magnet still in place & steam knob **not** fully open!)
11. Now the complete water circuit will be emptied by the applied air pressure on the system.
12. Water system is sufficient empty that no harm can be done by frozen water in the system.
13. Remove all external connections/Jigs and unplug the appliance from the mains.
14. Plug on the appliance on the mains and wait until the internal test by the appliance are performed.

Put the appliance into the Virgin Factory mode.

1. Disconnect the appliance from mains.
2. Press simultaneously and Coffee buttons.
3. Connect the appliance to mains.
4. If succeeded the Display will show "DISPLAY TEST MODE".
5. Unplug the appliance from the mains.

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Technical related problems.

Warning:
Live Voltage is applied to the micro switches used in the appliance!!!!!
Always disconnect plug from the mains when repairing!

When the appliance generates a GENERIC ALARM message, the only way to reset this is by unplugging the power plug from the mains.

FAILURES AT PLUGGING IN APPLIANCE			
Problem description / "Error" message displayed		Actions to perform	Hints/tips/solution
1.	**Appliances doesn't work at all.**	Check if main voltage is applied on the main PCB (vertical PCB on the right side) by measuring the voltage (220 - 230 V) on the connector F3 and F4. (see electrical drawing scheme)	If no voltage is present: check power cord and connections! If voltage is present, check all electrical connections on the PCB, otherwise exchange PCB.
2.	MESSAGE GENERIC ALARM !	• Check micro switch (**M1**) top position brewing unit and it's circuit. • Check NTC sensor (**J5**) heater and it's circuit. • Check Hall sensor (**J3B**) motor lift and it's circuit.	• Micro switch is NC (normally closed) (exchange switch) • Value NTC resistor at 23 °C ± 110 kΩ ➟ ± 95 °C = 5.3 kΩ • Value measured on PCB **J5** (without NTC) ± 10 kΩ • If the GENERIC ALARM message appears after the brewing unit went down, most probably the Hall sensor/connections is the problem. (counting of pulses starts after actuating the **brewing unit_down_position M2**, so going up direction!)
3.	MESSAGE PLEASE WAIT.....	• If a normal motor sound of the brewing unit lift is noticed, but the brewing unit doesn't move, check the driving belt. • If a motor sound is noticed and afterwards you hear a hard noise sounding like a blocked motor and the brewing unit stays at bottom position, check the micro switch (**M2**) bottom position brewing unit and it's circuit. • If no motor sound is noticed, check the wire connection of the motor and see if voltage has been applied on the motor side. • If no motor sound is noticed and also no voltage has been measured on pins **F7 & F8 PCB** probably the 2 relays on the main PCB became defect.	• Belt broken, replace belt. • Replace micro switch (**M2**). • If voltage on the motor circuit board has been applied, motor is probably defect. Exchange total brewing unit lift assy. • Exchange main PCB
4.	MESSAGE CLOSE DOOR !	• Close the service door. • Check the function and circuit of micro switch (**M4**). • Check if the micro switch mechanical will be activated if the door is closed.	• Exchange micro switch. (**M4**).
5.	MESSAGE INSERT WASTE BIN !	• Place waste bin. • Check the function and circuit of micro switch (**M3**). • Check if the micro switch mechanical will be activated if the waste bin is placed.	• Exchange micro switch. (**M3**).

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FAILURES WHEN SWITCHING ON THE APPLIANCE			
Problem description / "Error" message displayed		**Actions to perform**	**Hints/tips/solution**
1.	**MESSAGE** **No WATER !** **-Fill watertank-**	• Fill tank with water. • Check function of the Reed sensor (no magnet, open contact = >>> Ω, magnet closed contact = 0 Ω)	• Check if filled tank is inserted correctly. • Check presence of Magnet in tank or see if it is jammed. • For testing purposes short circuit jumper (**J7**) display message will disappear. • Exchange Reed sensor.
2.	**MESSAGE** **HEATING UP** **PLEASE WAIT...** **After ± 6 minutes** **GENERIC ALARM !**	• Check if Coffee heater is heating up.	• Check voltage is present on connectors (**F1**) & (**F6**) (if not exchange PCB) • Check Fuse/TCO became defect (2x) (exchange when defect) • Check resistant of heating element. (45 - 55 Ω) (exchange when defect) • If coffee heating element is heating up check function/circuit of NTC coffee heater. (**J5**) PCB.
3.	**MESSAGE** **INSERT BREWING UNIT !**	• Place brewing unit. • Check the function and circuit of micro switch (**M1**). • Check if the micro switch mechanical will be activated if the brewing unit is properly placed and the brewing unit is in top position.	• Exchange micro switch. (**M1**).
4.	**MESSAGE** **Flushing…** **After 20 – 30 seconds 'GROUND TOO FINE! –Adjust mill' and 'OPEN STEAM KNOB!**	• When water is pumped through the system, the flow meter measures the pumped volume. When the system detects a mismatch in expected and measured volume the failure will be displayed. • Check if the pump is pumping. • Check the flow meter and it's circuit is functioning.	• Check if water is present in the water container and the water container has been correctly placed. See if water is visible in the area container - pump. • Check if the pre filter not became clogged by particles. • Check if voltage is during pumping present on connectors (**F2**) & (**F10**). (if not exchange PCB) • Check if voltage is during pumping present on the pump. (if not check the TCO on the pump, exchange when defect) • Exchange pump. • Exchange Flow meter.

FAILURES DURING OPERATING THE APPLIANCE			
Problem description / "Error" message displayed		**Actions to perform**	**Hints/tips/solution**
1.	**MESSAGE** **NO COFFEE BEANS!** **- Fill container-**	• Fill container with beans. • No motor sound during grinding process is noticed. • You hear a humming noise or rattle sound, probably the grinder is blocked by a stone or other material. • The coarseness of the Coffee grinder is set to fine, so almost no coffee will be grinded. • The micro switch (**M1**) brewing unit top position has been activated to soon when the brewing unit move upwards or brewing unit position counter (**J3B**) (Hall sensor) is inaccurate (time and position is how the appliance detects if ground Coffee is present)	• Check if beans are visible in the grinder. • Check if voltage is present during grinding on the (**F0**) & (**F9**) connectors. (if not exchange PCB) • Check wires/connection grinding motor and replace grinding unit in case the motor is defect. • Remove the obstacles out of the grinder wheels. • Adjust the Grinder coarseness. (turn clockwise) • Check if micro switch is properly functioning and/or is activated properly by the mechanical action of the brewing unit. • Check Hall sensor is correct counting/ detecting position.
2.	**MESSAGE** **LESS GROUND COFFEE !**	• User selected Coffee ground • To less ground Coffee has been applied. • The pre-ground Coffee funnel has been blocked! • The micro switch (**M1**) brewing unit top position has been activated to soon when the brewing unit move upwards or brewing unit position counter (**J3B**) (Hall sensor) is inaccurate (time and position is how the appliance detects if ground Coffee is present)	• Add pre-ground Coffee. • Supply one Coffee spoon of ground coffee. • Open/clean the pre-ground Coffee funnel. • Check if micro switch is properly functioning and/or is activated properly by the mechanical action of the brewing unit. • Check Hall sensor is correct counting/ detecting position.
3.	**MESSAGE** **EMPTY WASTE BIN !**	• Empty waste bin. Check the function and circuit of micro switch (**M3**). • Check if the micro switch mechanical will be activated/de-activated if the waste bin will be removed/inserted.	• When emptying waste bin the software monitors if the waste bin micro switch (**M3**) has been inactivated for at least 15 seconds. (time needed to dispose the coffee) (appliance must be plugged on the mains to monitor this action. • Exchange micro switch. (**M3**).

FAILURES DURING OPERATING THE APPLIANCE			
Problem description / "Error" message displayed		**Actions to perform**	**Hints/tips/solution**
4.	**MESSAGE** **Please wait…..** **Flushing…. Or** **Coffee….** **After 20 – 30 seconds 'GROUND TOO FINE! –Adjust mill' and 'OPEN STEAM KNOB!**	• When water is pumped through the system, the flow meter measures the pumped volume. When the system detects a mismatch in expected and measured volume the failure will be displayed. • Check if the grinder is not grinding the Coffee too finely, that no Coffee is coming out the spouts. • Check if the pump is pumping. • Check the flow meter and it's circuit is functioning.	• Check fines of the grinder; adjust grinder see instruction Grinder adjustments. • Check if water is present in the water container and the water container has been correctly placed. See if water is visible in the area container - pump. • Check if the pre filter not became clogged by particles. • Check if voltage is during pumping present on connectors (**F2**) & (**F10**) (if not exchange PCB) • Check if voltage is during pumping present on the pump. (if not check the TCO on the pump, exchange when defect) • Exchange pump. • Exchange Flow meter.

OTHER FAILURES			
Problem description		**Actions to perform**	**Hints/tips/solution**
1.	During heating up water is dripping from the Brewing unit. OR I selected hot water but the water is leaking via the brewing unit inside of the appliance.	• The valve construction in the (yellow tube) thermo heater became defect.	• Check the O-rings in the brewing unit (pos 41) • Check the spring in the brewing unit (pos 44) • Check the shaft in the brewing unit. (pos 42)
2.	Coffee is not coming out of the spout.	• Check if the holes of the spout are not clogged. • Check if the mobile drawer inside the service door is blocked and cannot swing. • The coffee is not running out of the brewing unit spout but is leaking through the brewing unit.	• Clean or open the holes with a needle. • Check the function of the drawer and clean it thoroughly so it can swing again. • Check the O-rings in the brewing unit otherwise replace brewing unit.
3.	The coffee is not hot.	• Mostly the problem is caused by the fact people use big not pre-heated mugs for small amounts of Coffee. • Increase the coffee temperature in the menu. • Measure the Coffee temperature see instruction “Temperature measurement”.	• If the temperature is really too low, descale appliance. • Check function of NTC • Replace coffee heater.
4.	The coffee is not creamy enough.	• The coffee is ground too coarsely. Turn the grinding coarseness knob one setting anticlockwise while the mill is grinding coffee beans.	• Check fines of the grinder; adjust grinder see instruction Grinder adjustments.
5.	The coffee is too strong.	• The coffee is ground too finely. Turn the grinding coarseness knob one setting clockwise while the mill is grinding coffee beans. • Change the coffee strength with the coffee strength button	• Check fines of the grinder; adjust grinder see instruction Grinder adjustments.
6.	The coffee is too weak.	• The coffee is ground too coarsely. Turn the grinding coarseness knob one setting anticlockwise while the mill is grinding the coffee beans. • Change the coffee strength with the coffee strength button.	• Check fines of the grinder; adjust grinder see instruction Grinder adjustments.
7.	The coffee tastes bad.	• Clean the appliance with the ‘cleaning’ function in the menu. • Descale the appliance with the ‘descaling’ function in the menu.	• Taste is really user depended, only cleaning, descaling and checking of the grinder adjustment are possibilities to check. (assumption is that the appliance functions normal!)
8.	The water system has been damaged due to the fact the appliance has been stored / transported in freeze cold.	If the water system has been frozen, most probably the appliance is not able to make Coffee any more. The water cannot reach the Coffee powder any more or water is leaking out of the brewing unit. The valve used in the brewing unit (yellow tube) is mostly the part that has to be replaced.	• Check the O-rings in the brewing unit (pos 41) • Check the spring in the brewing unit (pos 44) • Check the shaft in the brewing unit. (pos 42) • Check the valve (pos 43) • Follow procedure “Empty water system” when the appliance will be transported in Winter time.

= changed

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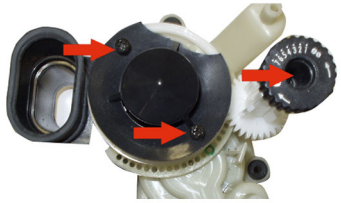


Remove the coffee beans container, the black finger saver and the knob.

2

Turn the white shaft clockwise till it stops. Remove the upper part of the grinder by pulling it upwards.

3

Verify the position of the white gasket (has to be as on the picture)

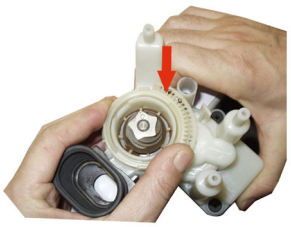
4

Remove the white plastic ring by pulling it.

5

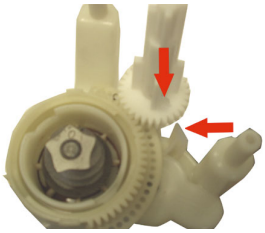
Turn the white shaft counter-clockwise till it stops.
Pull to remove it.

6



Now you can change the setting:
Turn the gear **clockwise* to** reduce the coarseness (finer coffee).
Turn the gear counterclockwise* to increase the courserness (**thicker**).

7



Insert the white shaft, making sure its larger notch is aligned with the one on the grinder.

8

Insert the white ring making sure its notch as well is inserted on the correct position.

9

Turn the shaft CLOCKWISE till it stops to insert the upper gear.
Then turn the shaft all the way COUNTER CLOCKWISE.

(*) before to change the setting, check and mark the initial position taking as reference the position of the metal ball you see through the holes on the white ring.

Change the setting carefully by turning the white ring of one or max two steps (one or two holes) either way as required.

Proceed as follows:

- Press the MENU button.
- Press the ▾ button until the message 'START DESCALING?' appears on the display.
- Press OK.
- The message 'ADD DESCALER! - OPEN STEAM KNOB!' appears on the display.

Use the bottle of durgol® descaler.

Fill the water tank with the entire bottle of durgol® descaler (125 ml) and 1 litre of water.

Note:

Use the descaler supplied with the appliance or a liquid descaler based on citric acid. Never use a descaler with acetic acid, as this will damage the appliance.

Note:

Be careful not to spill descaler on the metal surfaces of the machine and on surfaces sensitive to acid such as marble, limestone and glaze. If you spill descaler on these surfaces, immediately wipe it off with a cloth to prevent stains.

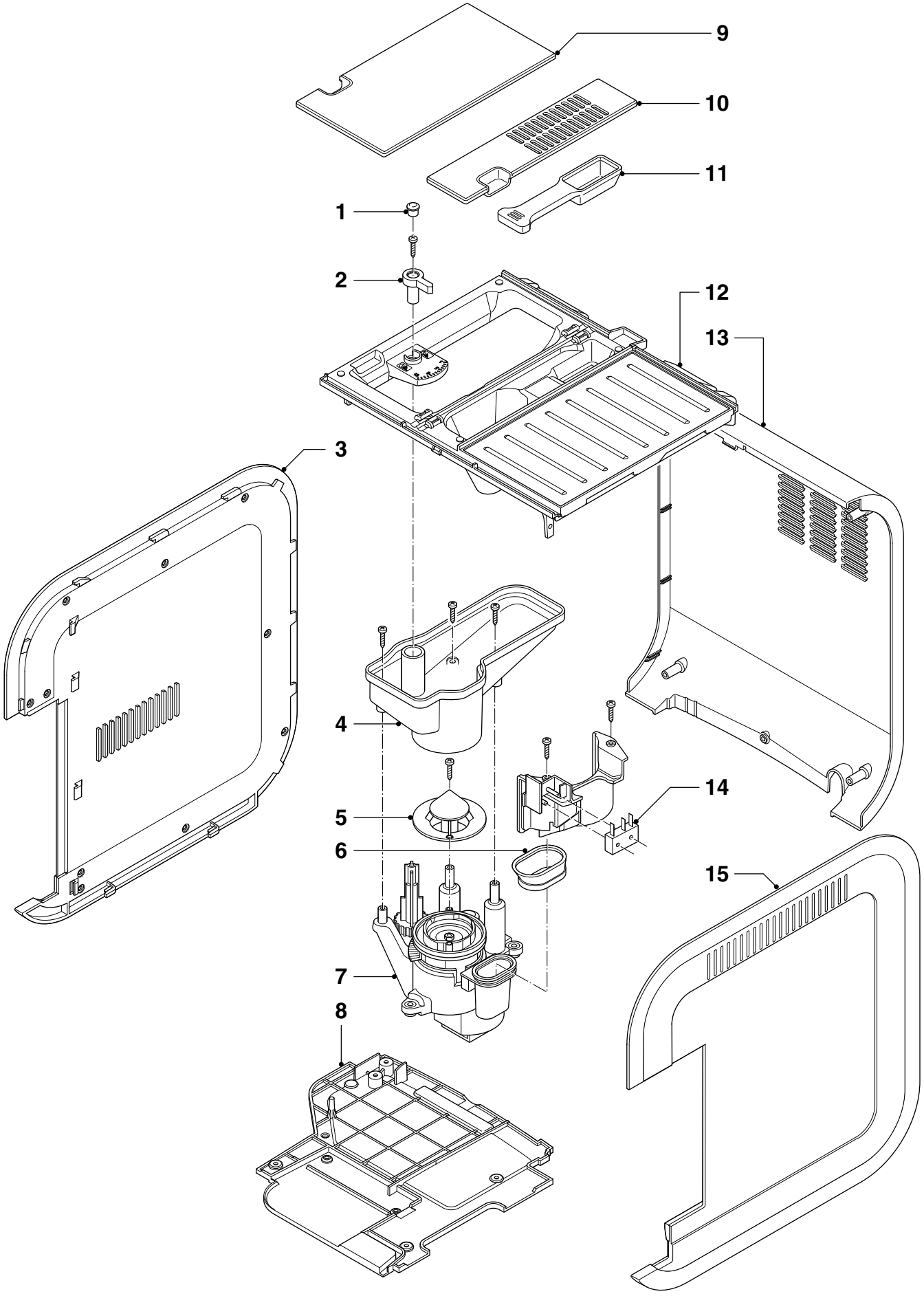
Follow further instruction as indicated on the display.

Note:

If the descaling program is interrupted before completion, the appliance continues to display the message 'PLEASE DESCALE!' and you have to start the program from the beginning again.

Pos	Service code	Description
1	4222 459 45085	Strength selection cap
2	4222 459 45135	Strength selection knob
3	4222 459 45158	Left side panel
4	4222 459 45151	Beans container
5	4222 459 45119	Grinderwheel cap
6	4222 459 45113	Ground coffee funnel (gasket)
7	4222 459 45193	Complete Grinder
8	4222 459 45131	Bottom plate
9	4222 459 45156	Bean container lid
10	4222 459 45155	Ground Coffee container lid
11	4222 459 45133	Measuring spoon
12	4222 459 45159	Top cover assy
13	4222 459 45136	Rear panel
14	4222 459 45089	Microswitch
15	4222 459 45157	Right side panel
16	4222 459 45154	Control panel
17	4222 459 45153	Steam knob
18	4222 459 45185	Buttons + frame assy
19	4222 459 45170	Top row button assy
20	4222 459 45103	Control board PCB
21	4222 459 45194	Door assy
22	4222 459 45141	Spout cover
23	4222 459 45140	Front panel
24	4222 459 45172	Drip tray cover
25	4222 459 45139	Water tank cover
26	4222 459 45187	Water tank assy
27	4222 459 45137	Waste bin
28	4222 459 45138	Float
29	4222 459 45152	Drip tray
30	4222 459 45171	Diffuser
31	4222 459 45117	O-ring
32	4222 459 45191	Brew unit
33	4222 459 45088	Fuse 192 °C / 10 A
34	4222 459 45108	Microswitch support
35	4222 459 45175	Spring
36	4222 459 45090	Microswitch (NC)
37	4222 459 45189	Slider (brew unit)
38	4222 459 45110	Bush (small)
39	4222 459 45109	Bush (big)
40	4222 459 45092	NTC sensor
41	4222 459 45116	O-ring
42	4222 459 45130	Pin
43	4222 459 45115	Valve
44	4222 459 45178	Spring
45	4222 459 45107	Filter

Pos	Service code	Description
46	4222 459 45198	Brewing heating element
47	4222 459 45102	Filter board
48	4222 459 45223	Microswitch (NO)
49	4222 459 45101	Hall sensor
50	4222 459 45114	Transmission belt
51	4222 459 45190	Brew unit transmission
52	4222 459 45173	Clamping spring (small)
53	4222 459 45118	Gasket
54	4222 459 45132	Pump support
55	4222 459 45188	Connection piece + valve
56	4222 459 45094	Pump fuse
57	4222 459 45091	Pump
58	4222 459 45083	Pump support
59	4222 459 45096	Reed sensor
60	4222 459 45105	Power PCB assy HD5720
61	4222 459 45148	Tube (125 mm)
62	4222 459 45087	Tube (335 mm)
63	4222 459 45180	Clamp pipe
64	4222 459 45182	Clamp fixing
65	4222 459 45183	Coupler
66	4222 459 45181	Thread flank
67	4222 459 45176	Gasket
68	4222 459 45192	Vapour Heating element assy
69	4222 459 45095	Thermostat
70	4222 459 45097	TCO
71	4222 459 45093	Water Flow meter
72	4222 459 45147	Tube (270 mm)
73	4222 459 45123	Connecting piece
74	4222 459 45146	Tube (180 mm)
75	4222 459 45174	Clamping spring (big)
76	4222 459 45129	Connecting piece
77	4222 459 45106	Gasket
78	4222 459 45202	Water filter
79	4222 459 45144	Tube (150 mm)
80	4222 459 45111	Hook
81	4222 459 45122	Connecting piece (90°)
82	4222 459 45127	Gasket
83	4222 459 45099	Solonoid valve
84	4222 459 45195	Steam tap
85	4222 459 45112	Gasket
86	4222 459 45150	Milkfroth pipe assy
87	4222 459 45084	Gasket
88	4222 459 45082	Gasket
89	4222 459 45160	Inner milkfroth tube
90	4222 459 45179	Milkfroth tube
	4222 459 45145	Hardness test strip
	4222 459 45200	Durgel bottle DE - GB
	4222 459 45201	Durgel bottle GB - NL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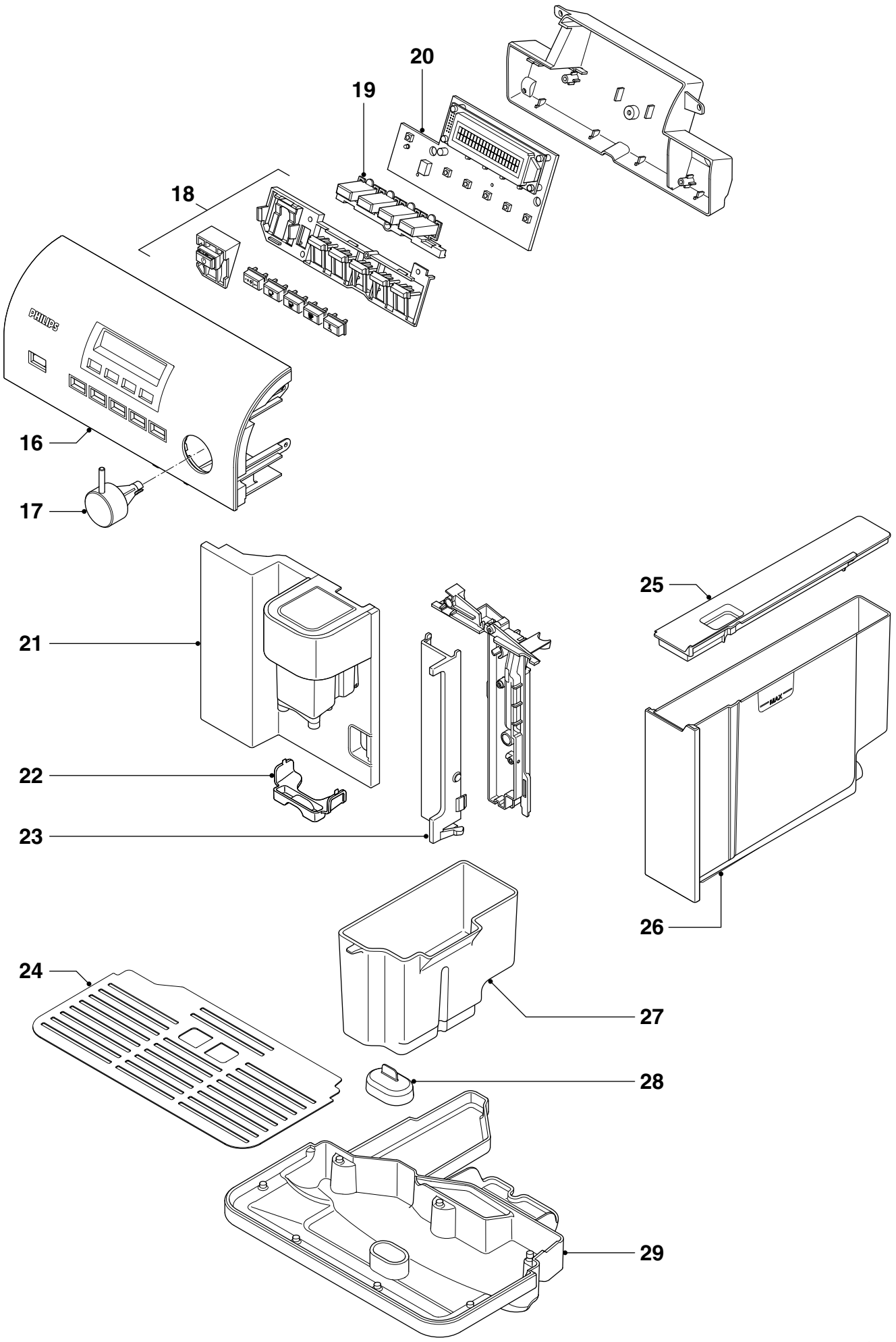
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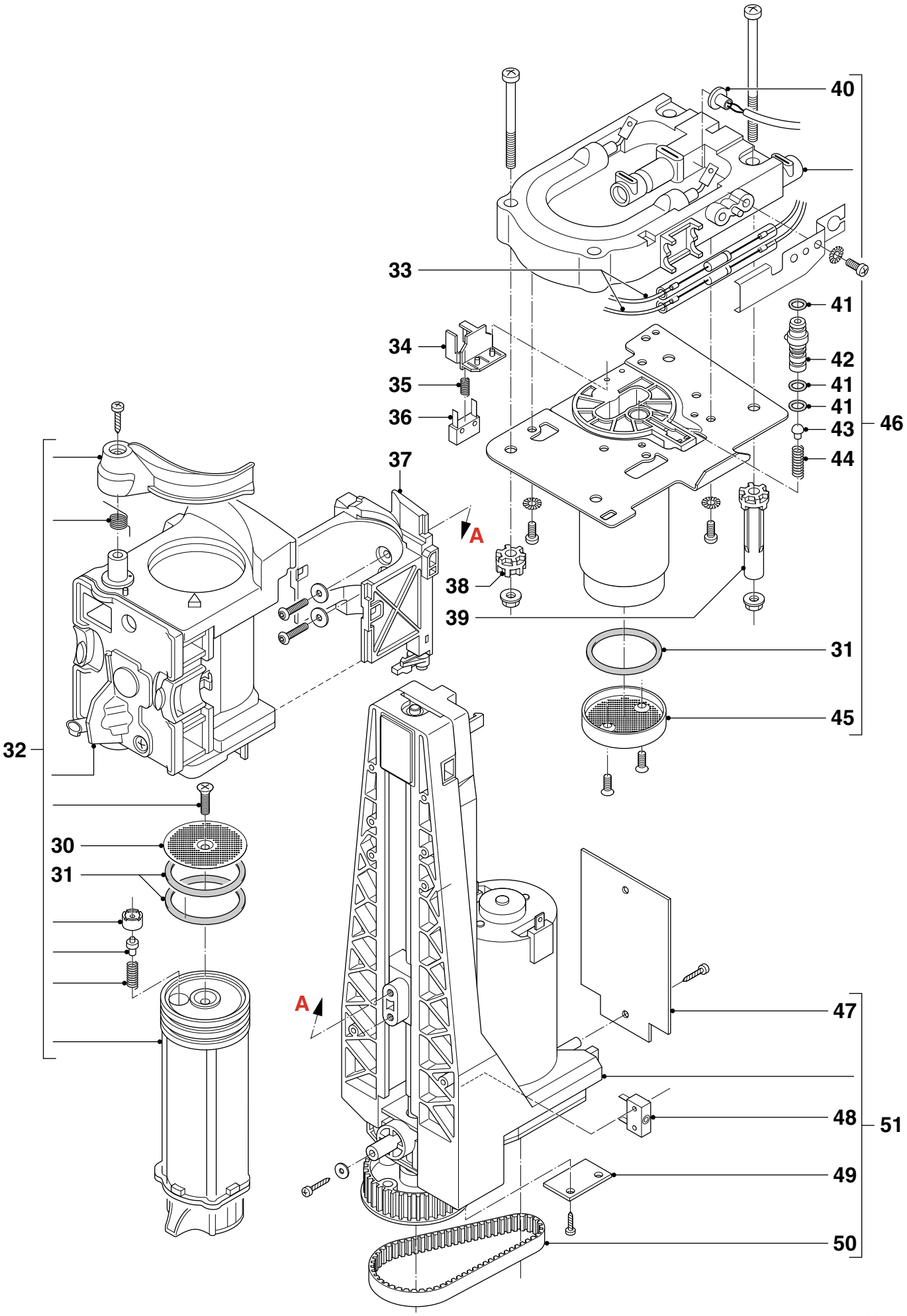
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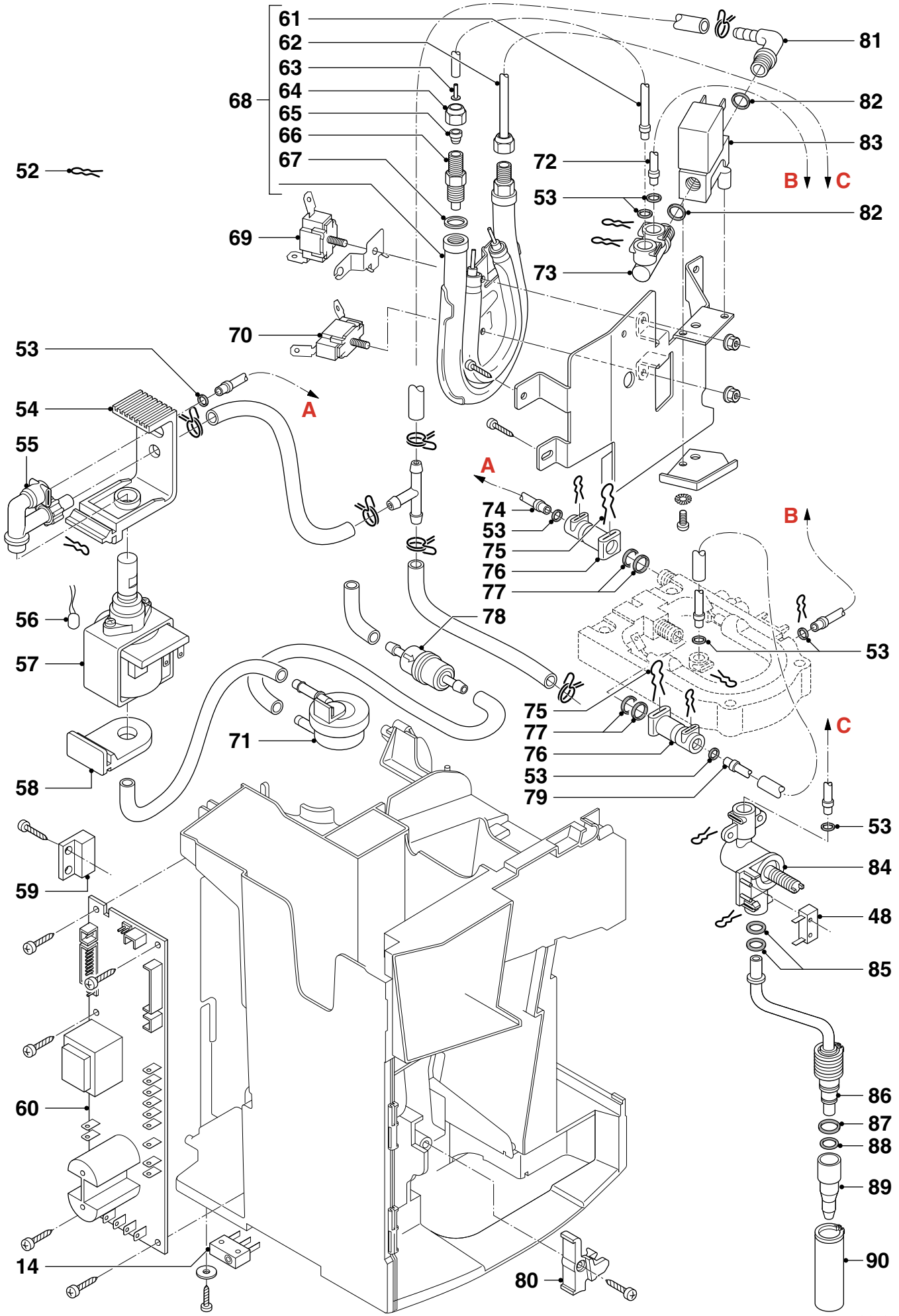
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